

Appl. No. : **09/945,311**
Filed : **August 30, 2001**

REMARKS

Claims 1-14, 16-26, 29-32, 35, and 36 remain pending in the present application, Claims 1, 13, and 36 having been amended, and Claim 15 having been canceled without prejudice or disclaimer.

In response to the Office Action mailed June 2, 2004, Applicant respectfully requests the Examiner to reconsider the above-captioned application in view of the foregoing amendments and the following comments.

The Objections to the Specification Have Been Addressed

The disclosure is objected due to informalities, the Examiner maintaining that the reference number 78 was incorrectly used to identify the "vibration detection circuit" and the reference number "72 was incorrectly used to identify the power circuit. In response, Applicant has amended paragraph [0107] as requested by the Examiner. Applicant respectfully requests the Examiner to enter these amendments.

The Outstanding Objection to Claim 1 Has Been Addressed

Claim 1 stands objected to due to an informality, the Examiner maintaining that a comma should be inserted between "threshold signal range" and "said control unit." Claim 1 has been amended as requested by the Examiner.

All Pending Claims Fully Comply With 35 U.S.C. § 112

Claim 35 stands rejected under 35 U.S.C. § 112 second paragraph, the Examiner maintaining that the language therein is indefinite. In particular, the Examiner indicated that the use of the term "or" therein is incorrect. Applicant has amended Claim 35 as requested by the Examiner. Applicant submits that this is not a narrowing amendment. Rather, Applicant has merely changed phrasing of the use of the term "or" to allow a reader to more easily read the claims, and thus equivalents of the originally recited phrases are also equivalents of the now-recited phrases. Additionally, Applicant submits that Claim 35 is now in condition for allowance in accordance with the Examiner's comments set forth at page 12 of the outstanding Office Action.

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The Applied Combination of Tzanev/Bohn Does Not Make Obvious The Motorcycle Recited By Claims 1 or 2

Claims 1 and 2 stand rejected under 35 U.S.C. § 103(a) as being obvious over Tzanev in view of Bohn. Applicant respectfully traverses the present rejection. However, in order to expedite prosecution of the present application, Applicant has amended Claim 1. Applicant also expressly reserves the right to further prosecute the original versions of Claims 1 and 2 through continuation practice.

Tzanev teaches a motorcycle having an accelerometer that is used to determine when a turn has been completed for purposes of canceling a turn signal, i.e., a “blinker”. Additionally, Tzanev teaches that the same accelerometer can be used to determine if a tip-over, from a static position, is about to occur and using a control system to *shut off* the motor if a tip over is detected. Tzanev, however, fails to teach a motorcycle that decreases a power output of its motor based on a measurement of the leaning angle *during turning*. Rather, Tzanev merely teaches a system for shutting off the motor of a motorcycle if the motorcycle is tipped-over while “static” or standing still.

For example, Tzanev indicates that the illustrated

“accelerometer 40 outputs a voltage that is proportional to the vertical component of the earth's gravity, as sensed by the accelerometer. Of course, centrifugal forces acting on the vehicle **while it is in motion** tend to counter act the gravitational forces acting on the vehicle. Thus, in steady state motion (such as when traveling around a curve at a constant speed) the output of the accelerator is **zero or nearly zero**.”

Tzanev, col. 5, ll. 2-6 (emphasis added).

Tzanev does teach that the output of the accelerometer does change while the leaning angle changes and that this changing signal can be used to cancel turn signals. However, nothing in Tzanev indicates that the sign *while turning* can be used to decrease power output. Rather, Tzanev teaches away from such a use because, as noted above, centrifugal forces acting on the vehicle **while it is in motion** tend to counter act the gravitational forces acting on the vehicle.” *Id.* The only example of the tip-over function in the Tzanev reference is when the motorcycle is where “the **static** lean angle of the vehicle is at about 45 degrees or more (tip angle) for a period of about 700 ms (tip-over time).” Tzanev, col. 7, l. 66-col. 8, l. 2. (emphasis added).

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Bohn teaches a motorcycle that has one sensor sensing rearward-forward accelerations and one sensor for detecting vertical accelerations. However, nothing in Bohn teaches decreasing the power output of the engine when an excessive lean angle is detected *during turning*.

In contrast, Claim 1 now recites, among other recitations, “an accelerometer configured to detect acceleration in at least a vertical direction and a horizontal direction relative to the frame, the accelerometer being mounted within the outer housing and electrically communicating with the control unit, the accelerometer adapted to output an output signal that varies with a leaning angle of the motorcycle when turning, said control unit adapted to compare said output signal to a threshold signal range, said control unit further adapted to decrease the output of said motive member if said output signal is outside said threshold signal range.”

No obvious combination of the Tzanev and Bohn references would result in a motorcycle having any sensor arrangement that outputs a signal that varies with a leaning angle *during turning* and a controller that decreases a power output of the engine when that signal rises or falls below a threshold *during turning*. Applicant thus submits that Claim 1 clearly and non-obviously defines over the cited art.

Additionally, Applicant submits that Claim 2 also defines over the cited references, not only because it depends from Claim 1, but also on its own merit.

The Applied Combination of Tzanev/Bohn/Schiffmann Does Not Make Obvious The Motorcycle Recited By Claim 3

Claim 3 stands rejected under 35 U.S.C. § 103(a) as being obvious over Tzanev in view of Bohn and in further view of Schiffmann. Applicant respectfully traverses the present rejection. However, in order to expedite prosecution of the present application, Applicant has amended Claim 1 which defines over the Tzanev/Bohn combination as noted above. Applicant submits that Claim 3 also defies over the cited references, not only because is depends from Claim 1, but also on its own merit. Applicant also expressly reserves the right to further prosecute the original version of Claim 3 through continuation practice.

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The Applied Combination of Blossch/Fritz Does Not Make Obvious The Wheeled Vehicle Recited By Claim 4 or 5

Claims 4 and 5 stand rejected under 35 U.S.C. § 103(a) as being obvious over Blossch in view of Fritz. Applicant respectfully traverses the present rejection.

In explaining the relevance of the Blossch reference, the Examiner cites col. 5, ll. 2-7 and col. 5, l. 66 – col. 6, l. 7 as disclosing the comparison of detected accelerations with a “collision” threshold. However, Applicant respectfully submits that nothing in the cited passages of Blossch indicates a collision threshold.” Rather, Blossch indicates that the values are compared for preventing **rollover**. For example, as set forth at col. 5, l. 66-col. 6, l. 7:

As an alternative or as a supportive measure, level sensors may be used in addition to limit switches 103. If level sensors are used, a value recorded by the level sensor during the application is detected which characterizes the **rollover** danger of the vehicle (the situation in this case corresponds, for example, to the situation in which limit switches 103 have either reached their particular limit stop or are about to do so). This value can be used as a threshold value in the monitoring system according to the present invention.

Fritz is cited for teaching the mounting position of the accelerometer. Thus, no obvious combination of Blossch and Fritz would result in a vehicle that uses a collision threshold value.

In contrast, Claim 4 recites, among other recitations, “a control unit electrically connected to the motive member and comprising an outer housing, an accelerometer mounted within the outer housing and electrically communicating with the control unit, the accelerometer adapted to output a signal that varies with the rate of forward deceleration, said control unit adapted to compare said signal to a collision threshold signal and said control unit further adapted to disable said motive member if said signal exceeds said collision threshold signal.”

Applicant thus submits that Claim 4 clearly and non-obviously defines over the cited references. Additionally, Applicant submits that Claims 5 and 6 also define over the cited references, not only because they depend from Claim 4, but also on their own merit.

The Applied Combination of Sasaki/Saito Does Not Make Obvious The Vehicle Recited By Claims 13, 20, or 21

Claims 13, 20, and 21 stand rejected under 35 U.S.C. § 103(a) as being obvious over Sasaki in view Saito et al. Applicant respectfully traverses the present rejection. However, in order to

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expedite prosecution of the present application, Applicant has amended Claim 13. Applicant also expressly reserves the right to further prosecute the original versions of Claims 13, 14, and 16-24.

Nothing in the Sasaki or Saito et al. references teaches using an accelerometer to detect accelerations in both vertical and transverse horizontal directions *during turning*, and using that output to determine when the power output of a vehicle should be lowered. In contrast, Claim 13 now recites, among other recitations, “a semiconductor accelerometer configured to detect accelerations in both a vertical direction and a horizontal direction transverse the forward direction of travel of the vehicle, said electronic control unit adapted to control operation of a motive member and a fuel pump, said method comprising sensing an output signal from said accelerometer which varies in accordance with a leaning angle of the vehicle during turning, comparing said output signal with a preset threshold level, if said output signal exceeds said preset threshold level then disabling said motive member.”

Applicant thus submits that Claim 13 clearly and non-obviously defines over the cited references. Additionally, Applicant submits that Claims 14 and 16-24 also define over the cited references, not only because they depend from Claim 13, but also on their own merit.

CONCLUSION

For the foregoing reasons, it is respectfully submitted that the rejections set forth in the outstanding Office Action are inapplicable to the present claims. Accordingly, early issuance of a Notice of Allowance is most earnestly solicited.

The undersigned has made a good faith effort to respond to all of the rejections in the case and to place the claims in condition for immediate allowance. Nevertheless, if any undeveloped issues remain or if any issues require clarification, the Examiner is respectfully requested to call

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Applicant's attorney, Michael A. Guiliana at (949) 721-6384 (direct line), in order to resolve such issue promptly.

Respectfully submitted,

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